

Status of E-906/SeaQuest

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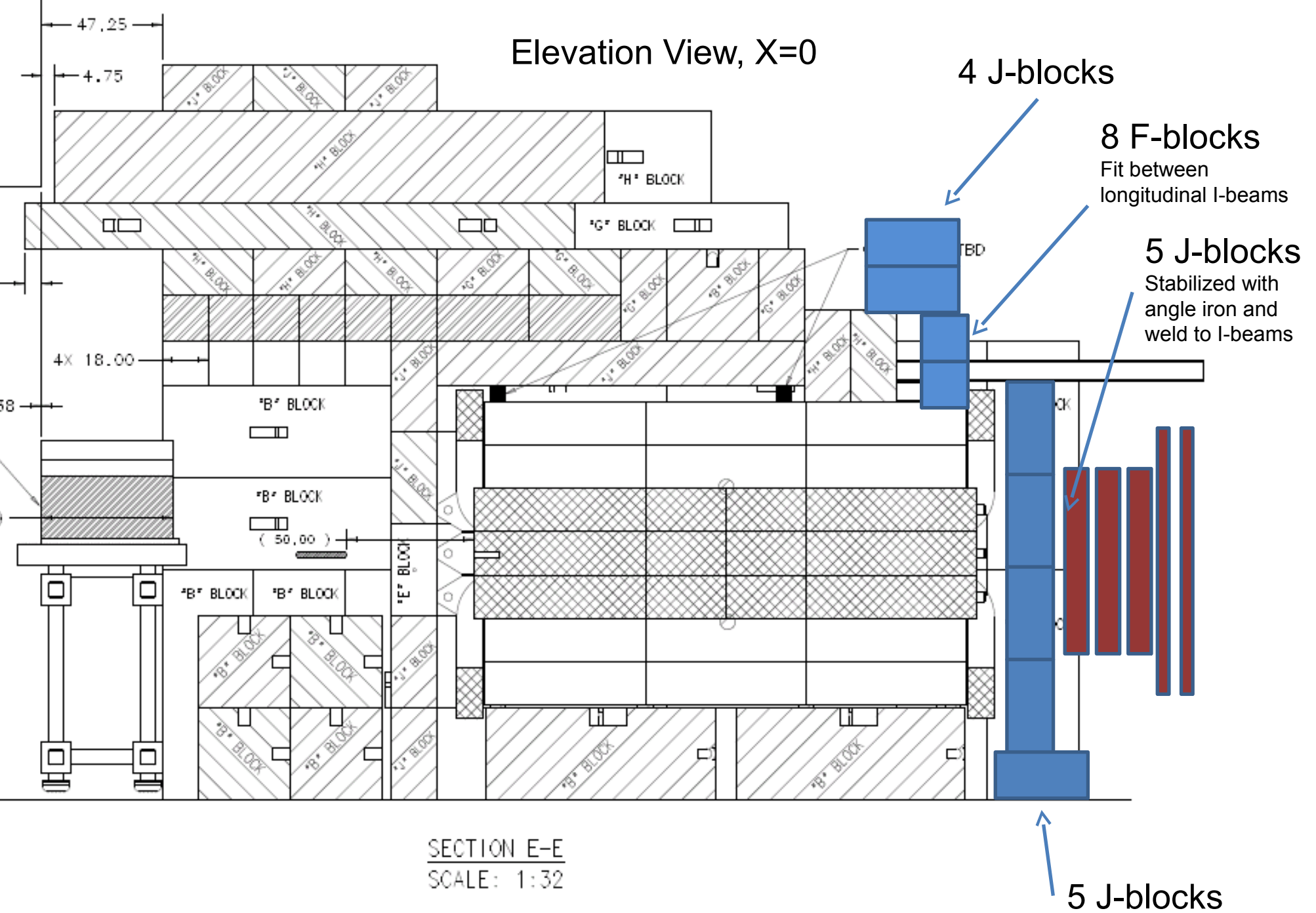


The SeaQuest status

- **(so far) unpolarized fixed-target Drell-Yan experiment:**
 - a 120 GeV proton beam extracted from the MI and
 - a moving target table (liquid H and D, solid state nuclei)
- **significant increase in physics reach:**
 - unique access to sea quarks at high- x
 - What is the structure of the nucleon?
 - What is the structure of nucleonic matter?
- **commissioning run 03/07/2012 – 04/30/2013**
- **waiting for beam ~ Mid August 2013**

Beam Updates

- **sleeving the bermpipe:**
 - pipe out of 2205 stainless steel with 12" diameter
 - waiting on steam cleaning the pipe
 - next step: welding, availability of welders tbd
- **beam diagnostics:**
 - preparing for PCB fabrication
 - next step: system integration with read-out software
 - test of read-out electronics at MT3



Target Updates



- two vacuum gauges on the Hydrogen system need to be replaced
- another cool down test of liquid H and D targets scheduled in July

Detector Updates

repair of interim D1

2 of 3 planes repaired
repair of last plane
in progress

new D1 in progress

wire stringing

PMT base update

higher-rate capability for H1/H2
production almost complete
→ installation in June

new D3m wire
chamber completed

broken wires repaired
HV training
ready for installation

DAQ: Improved TDC for Run II

TDC bin width	~0.44 ns	calibrated
minimum width of signal	4 ns	
maximum number of hits in 64 ns	4	
adjustable time window (detector)	4ns - 2048ns	
maximum number of hits per trigger	32 - 1024	
multiple events per IRQ	2 - 32	tested
scalar buffer	8 hits / channel	
intrinsic zero suppression (multi-sampling)		tested
multiple hits elimination		tested
leading edge or leading / trailing edge detection		
test with hodoscopes and proportional tubes		
Run II TDC working		

Trigger Updates

- **trigger road generation:**
 - realistic MC sample improved
 - trigger software suite progressing well
- **pulser test proceeds well:**
 - looking for any unwanted behavior from the trigger modules
- **remaining trigger hardware ordered**
- **installing final trigger configuration in June and July**